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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,544	03/16/2004	Jeffery L. Wang	12553/129	3727

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EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/802,544	Applicant(s) WANG ET AL.	
	Examiner Paul D. Kim	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-33 is/are pending in the application.
- 4a) Of the above claim(s) 19,20 and 22-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a response to the amendment filed on 2/23/2006.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsujino et al. (US PAT. 6,034,843).

Tsujino et al. teach a process of making a head stack assembly for a disk drive comprising steps of: providing a head gimbal assembly (HGA, 13), the HGA having an HGA mating portion; providing a flexible printed circuit (FPC, 24) assembly, the FPC having an FPC mating portion; providing an actuator coil assembly (21), the actuator coil assembly having a first mating portion and a second mating portion, wherein each of the HGA, FPC assembly, and actuator coil assembly is manufactured independently from each other as shown in Figs. 1-7; coupling the HGA mating portion to the actuator coil assembly first mating portion as shown in either Figs. 2 or 4; and coupling the FPC mating portion to the actuator coil assembly second mating portion as shown in either Figs. 2 or 5-7 (see also col. 1, line 44 to col. 6, line 21).

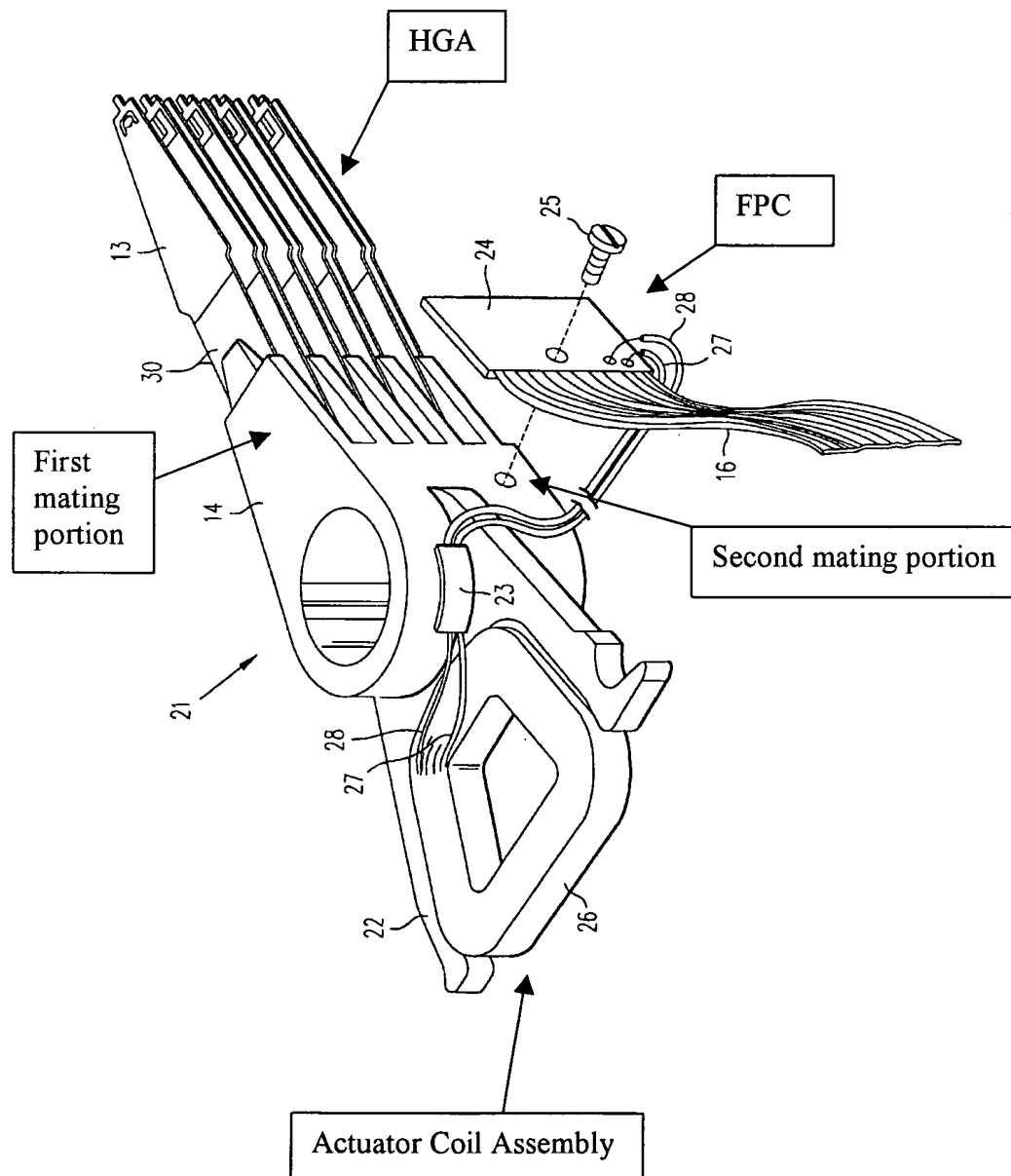


Fig. 2

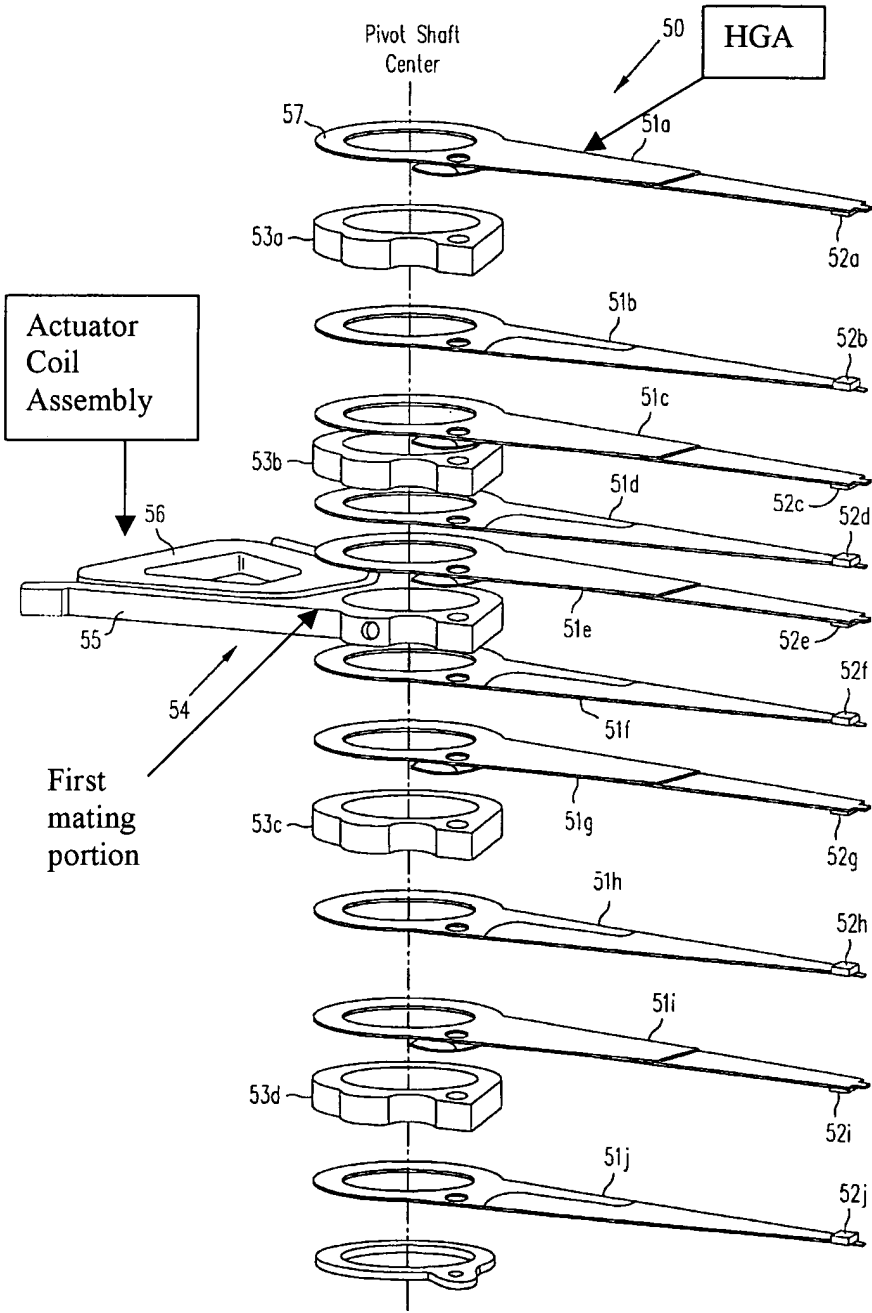


Fig. 4

As per claim 11 the actuator coil assembly first mating portion and second mating portion each have substantially smooth interface surfaces, and wherein the HGA mating portion and FPC mating portion each have substantially smooth interface surfaces as shown in Fig. 2.

As per claim 12 the actuator coil assembly first mating portion and second mating portion each have substantially flat interface surfaces, and wherein the HGA mating portion and FPC mating portion each have substantially flat interface surfaces as shown in Fig. 2.

As per claim 13 the actuator coil assembly first mating portion is recessed and contoured to interface the HGA mating portion as shown in Fig. 4 and wherein the actuator coil assembly second mating portion is contoured to interface the FPC mating portion as shown in as shown in Figs. 5-7.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujino et al. in view of Foisy et al. (US PAT. 6,061,206).

Tsujino et al. teach all of the limitations as set for the above including a unimount HGA as shown in Figs. 2 and 4 (as per claim 15) having a unimount baseplate (51 as shown in Fig. 4) containing the HGA mating portion (57), a multi-piece load beam as shown in Fig. 4, a flex-suspension assembly (FSA) trace (not shown), and a slider device (52) as shown in Fig. 4 (as per claim 16). Tsujino et al. also teach that the actuator coil assembly includes a coil (26 as shown in Fig. 2) and an actuator body (14 as shown in Fig. 2) containing the first and second mating portions (as per claim 18).

However, Tsujino et al. fail to teach an injection molding to form at least one of the HSA, FPC and actuator coil assembly (as per claim 14). Foisy et al. teach a process of making a head stack assembly for a disk drive including a process of forming an E-block (equivalent with the actuator coil assembly) by an injection molding in order form the E-block as an unitary object as shown in Fig. 2A (see also col. 7, lines 7-10). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fabricating a head stack assembly for a disk drive of Tsujino et al. by forming the actuator coil assembly by injection molding as taught by Foisy et al. in order form the E-block as an unitary object.

Even though Tsujino et al. do not describe a material made of bracket of the FPC, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the bracket material (metal and plastic) as recited in the claimed invention because Applicant has not disclosed that the brazing material as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art,

furthermore, would have expected Applicant's invention to perform equally well with Tsujino et al. because the bracket material (metal and plastic) as recited in the claimed invention would perform equally well in Tsujino et al. without any unexpected results. Therefore, it would have been an obvious matter of design choice to modify the bracket material (metal and plastic) of Tsujino et al. to obtain the invention as specified in claim 17.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujino et al. in view of Foisy et al., and further in view of Applicant Admitted Prior Art (APA).

Tsujino et al., modified by Foisy et al., teach all of the limitation as set forth above except solder bonding for the FPC coupled to the actuator body. APA as shown in Fig. 1 teaches that the FPC is coupled to the actuator body by soldering. In addition, in the manufacturing the head stack assembly for the disk drive, solder bonding for the FPC coupled to the actuator body is well known in the art. Therefore, since the solder bonding for the FPC coupled to the actuator body of the head stack assembly for the disk drive is old and well known and commonly used for manufacturing the head stack assembly, it would have been obvious to modify bonding the FPC to the actuator body of Tsujino et al., modified by Foisy et al., by solder bonding which is well known in the art as taught by APA in order to be art recognized equivalents.

Response to Arguments

6. Applicant's arguments filed 2/23/2006 have been fully considered but they are not persuasive. Applicant argues that the prior art of record fails to disclose the claimed

invention such as the HGA and the actuator coil assembly are manufactured separately. Examiner traverses the argument that Fig. 4 of Tsujino et al. shows that the HGA and the actuator coil assembly are manufactured separately. One of ordinary in the art should know that the HGA and the actuator coil assembly should be manufactured separately and coupled together. Applicant also argues that the actuator coil assembly of Tsujino et al. as shown in Figs. 2 and 4 has the first mating portion and the second mating portion.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

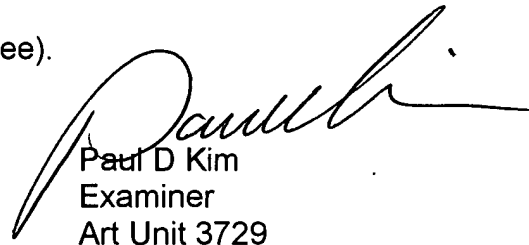
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565.

The examiner can normally be reached on Monday-Friday between 6:00 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
Art Unit 3729